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ABSTRACT

A research team from the School of Journalism at Carleton University in Ottawa, Canada, designed a research methodology for tracing the flow of interpersonal communication in a community in a crisis situation. They devised a completely detailed research plan including advance arrangements, a trained research team, a suitable survey instrument, and arrangements for a standby sample. For the study, they selected nine test communities in Ontario and the Atlantic provinces. During the first year of operation, the team encountered a shoot-out involving the murder of a policeman and a subsequent manhunt in one community, and a severe blizzard immobilizing another community for 48 hours. While this paper explains the methodology rather than outlines the results, some of the conclusions given include: (1) there is clear support for the multiple-step model; (2) evidence supports the idea of multiple-step flows without any involvement from the media; (3) there is some evidence that deviating chains originate around the scene of the disaster or very quickly after the impact of the event; (4) the longer the chain, the more likely the originating source will be a person involved rather than a media source; and (5) overhearing is a significant part of a long chain. (TO)

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TRACING INTERPERSONAL COMMUNICATIONS IN CRISES:

SOME PIONEER STEPS IN A PROMISING LAND

A paper describing the planning and methodology used to trace the flow of interpersonal communication up to 10 steps across a community in crisis.

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April, 1974

CS 201 553

Thirty years ago, Paul Lazarsfeld, Bernard Berelson, and Hazel Gaudet first published The People's Choice[1] and presented the concept of the two-step flow of communications -- that ideas often flow from the media (they said radio and print) to some persons (they called such persons "opinion leaders") and from them to others.[2] Since then, an enormous amount has been written about this concept and its implications.[3] A whole series of varying models been presented -- the one-step, the two-step, the multiple-step and hyperdermic needle model -- to the point that the literature sounds like some kind of academic dance.[4] Yet, despite all of the probing and discussion there has been very little research -- and still less really successful research -- following the actual flow of human communications across society. True, there has been speculation and comment. In 1956, for example, Elihu Katz wrote that chains of interpersonal influence "may extend through many links" before reaching the media.[5] But, as he reported a year earlier, it is "extremely difficult" to do the snowball or trace interviewing which he felt had to be involved in tracing information flows from person to person.[6] The evidence available certainly supports that assessment.

The studies that have been done which involve the tracing of human communication patterns usually have involved three approaches: massive interviewing which means virtually interviewing everyone in a community; the use of participant observers (the

recruitment of persons at certain stages in organizations); or third, the actual attempt to trace human communication chains by some form of trace or snowball interviews.

Success with mass interviewing has been mixed. One group of scholars -- Leon Festinger, Stanley Schachter and Kirk Bach -- reported that from their experience mass interviewing has its drawbacks because of the unreliability of data obtained.[7] In a study of housing developments where they had planted rumors they found:

> One of the four people with whom the information was planted . . . had no indication when interviewed later of having heard anything about it.[8]

Later, in another paper, these researchers reported that "even after only a short time interval, only very vague and unreliable interview information was obtained in this manner."[9] In any case, the data -- reliable or not -- was obtained from very small communities and its larger applications were therefore suspect.

Instead of duplicating the mass interview approach, these same researchers, in association with others, attempted to gather rumor data by using spotters planted within an organization. Once again there were difficulties; they had to select persons at strategic points to do their spotting and by this very selection they cut off such persons from normal participation in the communications system.[10] "These persons might have, under normal circumstances, have been the main transmitters of such information and rumors."[11] In any case, once again the research was limited to a single organization using planted information.

Finally, there have been some efforts at trace or snowball interviewing, but again with only limited success. In their book, Personal Influence,[12] for example, Elihu Katz and Paul Lazarsfeld report a very high mortality rate -- as high as 59% -- on follow-up interviews.[13] The trace person all too often could not be identified, could not be reached, or would not be interviewed.[14] Little wonder they reported the extreme difficulty of snowball interviewing.

To those of us at the School of Journalism at Carleton University all of these things seemed to offer a challenge. It seemed to us that it might be possible, using techniques that are not uncommon in skip-tracing or detective work or investigative reporting to actually trace the flow of human communications across a society. Especially important, based on the reading we had of news diffusion studies, it seemed likely that given a dramatic enough event it might be possible to actually trace the flow of information in times of crisis. In the studies done nationally of the Kennedy assassination for example it seems that roughly half the people in the United States heard by word of mouth and heard very quickly.[15] Surely if this were true the chance that they could recall where and when and how they heard was quite high. Crisis communication perhaps offered an opportunity to do fairly good tracing. We decided to attempt to test this hypothesis.

In fact, as this paper shows, this hypothesis turned out to be true. It is possible to trace interpersonal communications during a crisis. During the first two attempts at tracing information, the Carleton team was remarkably successful in actually following the flow of communications across society. In a study in Kingston in the fall of 1970[16] and in a study in North Bay in the fall of 1973,[17] most of the interpersonal chains located were actually successfully traced. The rest of this paper spends most of its time examining how this was done and why it was successful.

First, it would be wise to point out that there are, certainly, some dangers involved in crisis research. It is very easy to attempt to deal with crises in an ad hoc manner using ill-prepared researchers and research methods. One of the foremost scholars of disaster research, Russell Dynes, warned in his book, Organized Behavior in Disaster[18] that one of the key requirements for good crisis research was an experienced research team which could be mobilized:

> Training field teams is generally done poorly when the pressure to collect data competes for training time. Too, persons lacking experience are often preoccupied with the novelty of the situation and find it difficult to sort out the unique factors from the common and familiar.[19]

Alfred Biderman had suggested essentially the same thing some years earlier and it was the Biderman model that we followed at Carleton.[20]

What Biderman said was that there are four criteria involved in adequate crisis research:

> 1. We must endeavor systematically to anticipate the occurrence of events that may constitute important objects of research.
> 2. Research plans must be developed, using to the fullest extent our ability to anticipate the demands that will confront research on the occurrence of the event.
> 3. Where a study of change caused by the anticipated event is indicated, base-line measures should be made before the event. Such measures should be aimed at both relevant publics and variables.
> 4. A ready capability must exist for carrying out research observations where and when events significant for study occur.[21]

We believe our operational system meets three of these requirements and that our methodology helps overcome some of the problems created by the fourth. We have a design that allows us, in effect, to anticipate suitable events. We have a completely detailed research plan -- which includes advance arrangements, a trained research team, a suitable survey instrument and arrangements for a stand-by sample. We have built into the model some means of extracting ex post facto base-line material and we have the capacity to carry out research when and where events significant for study occur.

Obviously no one can really predict a disaster. What one can do, however, is create a research mechanism that makes it likely that you are prepared to deal with a disaster where and when it occurs. Our solution was relatively simple: we selected nine test communities in Ontario and the Atlantic provinces of Canada and made arrangements for co-operation with police, the Emergency Measures

Organization, media and other officials in these communities. We visited these communities in order to scout suitable accommodation. We familiarized ourselves with these communities and made a number of decisions about appropriate means of access. We made special transportation arrangements with Air Canada so we could move quickly if circumstances justified. We assume that given nine such communities we would likely run into appropriate crisis situations fairly often; and that assumption turned out to be true. During our first year of operation we encountered a shoot-out involving the murder of a policeman and a subsequent man hunt (involving stoppage of all public transportation systems and the cordoning off of a downtown area) in one community.[22] We had a severe blizzard that forced the mayor of another community to declare a state of emergency after everyone in the community had been tied down by a storm for 48 hours.*[23]

The effectiveness of these advance arrangements can be illustrated with a couple of simple examples. In the case of our first study (North Bay) one phone call led the chief of police to issued a memo to all members of the force notifying them we were coming and asking them to assist us in any way possible. The chief and his deputy had been carefully briefed on our plans during a lengthy meeting in North Bay three months earlier. In the case of our second study we needed priority air transportation. We finally

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*The weather was bad enough that the R.C.M.P. had to abandon highway patrols during the storm.

worked out a plan whereby we bussed the bulk of the team to Montreal (about 115 miles) and then flew them from Montreal into St. John's. The necessary arrangements for co-operation from the airlines had been worked out in negotiations involving the Department of National Defence, the Ministry of Transport and Air Canada over a period of several months. Once again we were able to get immediate assistance because we had been given such useful information as the home locations of all senior officers of Air Canada in Ottawa and all these officers had been briefed about the nature of our project by their own management.

Of course, every bit of co-operation did not flow from such careful planning. In St. John's, we were given substantial help from one company because the company's public relations officer was a former Carleton journalism student and a friend of one of the senior researchers. He had, however, heard about our plans from a memo sent to him through a national office of his company in Ottawa.

Our preparations of course were far more extensive at our base in Ottawa than in the field. During the summer and early fall of 1973 we prepared a questionnaire based on our field experience in Ottawa and Kingston and on previous research experience, began the job of preparing a standing sample, and recruited and trained a team of volunteer student interviewers. All of the student volunteers, who consists mainly of undergraduate students in the School of Journalism, were told in advance that the work would be demanding, would certainly take them away from classes for two to three weeks and could conceivably be dangerous. All had to sign legal releases before

participating. Despite this, we did not have too much difficulty recruiting an appropriate team consisting of students from second, third and fourth years (and including a couple of graduate students in Sociology) and putting this team through a couple of simulations when we tested not only the capacity of our volunteers but also the effectiveness of the initial design of our questionnaires. All the volunteers were also thoroughly briefed on the nature and intent of our research. All were provided with emergency identification cards issued by the Canadian federal government and with special cards designed to identify them as members of the team.

Finally, in order to guarantee that we can activate the team on very short notice, our one paid person, our research assistant, Elena Oropeza, has compiled personal data on each member of the team. That data includes a complete rundown of lifestyle; such things as home address and number, social address and phone number, favorite hargouts, studying spots, class schedules, etc. We have been able to use this information to locate members of the team in a little less than one hour. Twice we have been able to track down team members several hundred miles away through information in their personal files.*

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*Needless to say this material is not generally circulated and is used only for this purpose.

We have heard some doubts expressed about the suitability of undergraduates for such research. Our own experience was that they were highly motivated, quite flexible and more than willing to work 18 to 20 hours a day. Their one limitation was their tendency to be so imaginative that at times they deviated from the standardized questionnaire. We believe we have solved this problem by clearly identifying those questions where probing (and therefore deviation) is allowed and where it is not allowed and by screening team members carefully to ensure conformity where it is needed. (There will always be an underlying problem in this area because some of the trace techniques require a great deal of free-wheeling imagination.)[24]

Now that we have had two field studies behind us our team's capacity to operate is, we believe, extremely high. When we move again this fall, we expect to go into the field with two senior researchers, out on their fourth crisis study, and a student team consisting of 15 persons, five or six of whom will have had two studies under their belts, four or five with field experience in one study and the remainder newcomers with only experience on our training sessions. The newcomers will be teamed with the more experienced students for the first few days of the next field study. We find that after a day or so they can work with anyone. Undergraduates seem to learn very rapidly and adapt very easily.

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*It might be worth noting that the field experience does not seem to have harmed the professional opportunities of our team members. From the ones with us to date: one is now with CBC national news; one with the London Free Press; one with the Hamilton Spectator; one with the Canadian Press in Edmonton; one working as a researcher with the former head of the Canadian Association of Broadcasters; one with the government of Saskatchewan. Several of these posts opened up because the senior researchers were able to give such strong recommendations on the capacity of these students to do a thorough and imaginative job.

Our present arrangements, incidentally, call for us to go on standby three months in the fall (late September until mid-December) and again for three months after Christmas (early January until early April). With six more communities added to our list we will have a total of approximately 15 x 6 community months or 7½ community years. The chances of a crisis occuring in a community over a seven-and-one-half-year period are very high.

As already mentioned, we have gone to a great deal of trouble preparing and pretesting a questionnaire designed to meet the conditions of crisis information flow. The questionnaire was based on the experience of Richer and others in the study of the Laporte murder[25] and the experience of Scanlon and others in the study of the diffusion of news about the Cross kidnapping release.[26] It has now been twice tested in the field in North Bay, Ontario and St. John's, Newfoundland as well as being tested in simulations and as a result, it has been substantially revised. We have also had some preliminary feedback from our initial studies and we now feel the revised questionnaire is pretty well equipped to meet the needs of field crisis research.

When we do move we have developed a fairly systematic structure for a continuing field organization. We have developed a system whereby one of the students is assigned to handle the media contacts. Another one makes the final arrangements in drawing the organization plan for making contacts with persons in the sample. Another one handles the rental of cars and looks after accommodation. Another one acts as treasurer. The initial team that goes into the community makes advance arrangements on a systematic basis so that as the

second wave moves in the preparations are already made for accommodation, transportation, and so that the organization of the contacts has been organized in a way that allows us to move efficiently through a community without wasting time going from point to point.

Finally, and this is important, too, we have developed a whole new set of filing systems with colour tabs to indicate whether anyone in the sample has been started, where there has been a refusal, where there has been a follow-up, whether we're on to a trace and if so if the trace has been completed, and so on. One can tell very quickly what the state of any particular file is. Originally we allowed the persons in the group to maintain files overnight when they were following them up but we discovered that this did not work and now we have a very tight control every night. Every file must be accounted for and with every file there must be a careful explanation of the exact state of our relationship with the contact. If we've made any efforts at a trace these must be written out clearly and in legible hand writing or typed in such a way that the next person that picks up the operation the next morning can be absolutely certain where we stand.

As a result of field experience, we have also developed a number of questions designed to elicit particular information about the nature of relationships in an information flow. Some of our early data for example suggested that some people who reported hearing directly from the media, actually had their attention called to the report. For example, persons in a car might be talking and one person might hear a report and say, "My God, listen to this". It seemed to us there is a slightly different situation than we in

fact were reporting as direct contact with the media. So now we have questions that ask, for example, "Did you hear directly from the media or did someone call your attention to the report?" and secondly, "Did you just happen to hear it or where you actually listening fairly closely to the particular program or newscast before that specific report or bulletin came on?"[27]

Another question we had some difficulty with in our first test was trying to establish whether the people were in a place that was normal for them and at a normal time. In other words did they actually get the information in the usual place or did they just happen to be there? We first started asking whether it was unusual for them to be someplace and we found that that question did not work. So now we ask:

> "You told me you heard/read or saw the news from (state source) when you were (state place). Was it at all unusual for you to be there at that time?"

We discovered that that question elicited responses like, "I work at that place all the time but I was filling in that particular night," rather than just a noncommittal answer. We also discovered that in some cases people did not actually remember where they got information because sometimes that first information was not directly connected with the event we were examining. Therefore a later question was put into the second questionnaire:

> "Did anything you learned later about the first news make you think there was something wrong with the first impression?"

This question gave us information that corrected some of the earlier interviews.

We also became extremely interested in our Kingston study about the nature of overhearing.[28] It seemed to us that a lot of information crossed socio-economic lines when it was overheard rather than communicated directly. We discovered in North Bay that the exact definition of overhearing is a difficult one to deal with and therefore we devised a fairly careful question:

> We just want to check. Did you learn by
> (a) overhearing a conversation (even though you were part of a group)
> (b) overhearing a conversation (even though you were not part of a group)

If they answered (a) or (b) we probed and recorded precisely what happened and then we also asked them if they had heard by:

> "(c) talking directly to someone yourself
> (d) talking to someone on the telephone"

We went even further to find out whether they initiated the conversation or whether the conversation was initiated by someone else.[29]

Finally, as a result of a look at our first questionnaire by one of the Canadian researchers at the disaster research centre at the University of Ohio, T. J. Hannigan,[30] we put in a feed-back question:

> You told me you heard from . . . (we named the source). Did you and he/she talk about it again? If so, who brought it up?

We also looked at the feedback model the other way:

> " You told me the first person you told was . . . (and we named him or her). Did you and he/she talk about it again?"

And finally as a result of some suggestions by a new member of our research team we put two open end closing questions:

> Is there anything else about the event that you think would be important for us to know? Is there anything that came to your mind as you were talking that you didn't get a chance to tell us?

We are not suggesting for a moment that we have solved all of our problems. We are still having difficulty with the definition of overhearing. We are still having difficulty locating precise references to children for it appeared to us in North Bay persons did not include their own children among the persons they had told.[31] We are also not entirely satisfied that we are getting the precise first messages. But we are building up a considerable field experience with a research team and with a questionnaire that allows us to be far more satisfied with the kind of information that we are getting. In our opinion, inherent in this use of disaster or crisis situation as a constant means of study, is the increasing capacity of the research team to deal with these as normal events.

This summer we plan to establish liaison or contact and arrangements with about six other communities, which means we will have approximately 15 moderate size Canadian cities on a standby basis, all within range of our crisis team. That will mean that on any given day we can in effect cover two weeks of time. If

I can explain this argument a little further: if we had arrangements with only one community, therefore one spectacular event in the year would be the only one we would have the chance to cover. One might assume that there was one spectacular event every five years; then we would have to wait five years for an event worth covering. But if one establishes contacts in 15 communities, this means that we really run 15 communities per year which means that if an event occurs every five years we have a chance of covering up to three events in one specific year. In fact, even if a crisis or disaster event took place in a community every 15 years we still have a probability of one of getting a particular year and in a community where we have established relationships and where we have access without exorbitant financial costs.

The entire model for this concept was based on Biderman's idea that one could in fact anticipate an event, perhaps not in a very specific way but one can certainly conclude that in 15 communities over a one-year period there is a high probability of some dramatic crisis or event.

Finally one thing that we are particularly proud of and that is that we have gone to a great deal of trouble to attempt o design means of completing interviews with those in the original sample. It has always seemed to us that the value of data is considerably enhanced when a sample of whatever size is complete. In St. John's, Newfoundland, in our most recent study we had, for example, a 97.8% completion rate of the original sample and that

completion rate includes completion of every single trace in every case where there was a trace. Our two absolute refusals included one lady who gave us a written rejection and one lady who absolutely refused to talk to us under any circumstances. That lady told me to go back to the mainland where I belong and when the police called and intervened on our behalf she told them to go to hell, too.[32]

The only other real incompletion was a case of a serviceman who was moving from one point to another by automobile and had an extended period away from home and we could find no access to relatives and his neighbors did not know where he had gone. There were two other questionnaires which were not filled out but those where based on the fact that the persons in the sample were senile and incompetent.

We also dealt with these people in a systematic way by devising a set of strategies which allowed us to deal on a step-by-step progressive basis increasing our way of dealing with them from the casual introduction -- simply "I'm so and so from Carleton University, can we come in"-- right up to the formal involvement of a senior member of the team with an explantion of the importance of the study and sometimes with support from an official call from the police department to explain that in fact they were well aware of our work, that we were doing a serious study, that we were trustworthy people. Their intervention, by the way, did make it possible for us to make contact on a number of occasions in both North Bay and St. John's. Since use of the approaches is coded we expect eventually to be able to make an anlysis as to

whether these results are affected by the nature of the contact. One thing we have found out is that there is considerable evidence that completing the sample to this very high rate does change the nature of the data.

For example, in St. John's it would appear to us (and we haven't done a complete analysis yet) that up until the time we had completed about one hundred of the one hundred and sixteen interviews less than 7% had heard the information by interpersonal means. (St. John's proved to be a major successful test of our whole field operation and our questionnaire but not of our tracing mechanisms.) The last fifteen interviews were largely interpersonal and the percentage of those hearing from interpersonal sources rose from roughly 7% to 13% as our completion rate went from 90% to 98%. It seems to us, therefore, that there is considerable value in making sure that we devote a great deal of time to completing the sample.

The whole point of all of this, of course, is to make the point that the crisis research can and is in our case a very serious approach to carefully prepared social science research and is not done on some kind of ad hoc casual basis despite the fact that we're dealing with what in many ways must be described as unanticipated events.

Given all of this, what happened? I will discuss this very briefly. First of all it was certainly true that our first hypothesis, that crisis communication could be fairly readily recalled was in fact correct. Persons may not recall how or when or where they learned about

events ofno great importance to them. But most of us can still recall the circumstances of our hearing about such major events as the assassination of John F. Kennedy. Many of us can even remember how we heard of the death of Franklin Roosevelt. Since the Carleton research team moves into a community very quickly in the wake of events of some magnitude (especially to <u>that</u> particular community) it is far more able to trace the flow of information than would be the case if we were studying less significant events or delaying our arrival until weeks or months after the event.

Second, as it turns out, most crisis communication takes place in familiar environments. Most people first learn the news of a crisis at home, at work, en route to or from work or at a place where they customarily go for leisure activity. This usually makes it easier for them to recall the exact circumstances of such information contacts. Especially important, persons who were at work or en route to work for example usually hear via radio rather than television; persons who are at home are far more likely to hear via television than those who are away from home. The newspaper is not a significant factor in first news about crises.

Third, most people who hear the information from someone else are also in a familiar environment, usually at home, at work or at school or places where they normally spend non-working time and, therefore, the 'someone else' is also likely to be someone they can fairly easily identify. When the source is a member of the family, a co-worker or a close friend that source is easily recalled and easily located. Tracing is, therefore, not at all difficult. Often the trace is right there where you have done the first interview.

There are two more reasons why tracing is not as difficult as perhaps others have perceived. One of these is that people are creatures of habit; the other is that many contacts involve hearing or sometimes overhearing information coming from persons in a set location at a time and place that could be readily fixed. Once again tracing, though it sometimes involved time and energy, was not difficult.

The idea that people are creatures of habit may not seem like a dramatic one but it was not perceived by us at first with all its import. Most persons do a number of things by routine and sometimes at short intervals, often over a seven day span. People will play bridge every Tuesday, go for a drink after work every Friday, play cards every Thursday, go to church every Sunday morning, play tennis on weekends, that sort of thing. All of this means that if you attempt to return to the place where contact was made after a normal time period (usually seven days) you are likely to find the same persons there even if those persons are not necessarily known to the original source. Information, therefore, obtained from others, even from relative strangers, can often be tracked down simply by using the regular pattern of human activity as a means of making the trace. In fact to make the point a little more clear we did waste a great deal of time in our second study in North Bay trying to make traces that would have been much easier if we simply had waited for the seven day cycle to finish.[33]

But equally important is the fact that where persons are involved in service occupations of any kind, waitresses, bus drivers, sales clerks, police, cab drivers, etc., it is usually possible to trace complete strangers by getting information on the time and place and the nature of the contact and then by locating the source. In one case, the contact was a waitress and the contact took place after midnight in an all-night restaurant; not surprisingly there was only one possible source. Another trace involved someone who overheard two policemen talking in a hospital. Again it was quite easy to identify which policeman could have been dealing with the kind of information obtained from the conversation. This trace did involve interviewing most officers on the force who were on duty at the time of the contact but this (though time-consuming) was not difficult.

On another occasion, a security guard had been overheard in a restaurant. Given the kind of conversation that took place it was possible to reconstruct the probable source. On another occasion someone had heard the information from a bus driver. Once again it was possible to figure out by interviewing every bus driver which one it must have been. (Police roadblocks had forced drivers to alter routes in and out of town so it was a little more difficult than usual.)

Another person had heard from somebody at a taxi stand. It was possible to check with every single employee at that place, at that time and figure which one had talked to the person who was our contact. This particular trace was time-consuming -- most cab drivers who were on duty were part-timers -- we had to track each one down. But it was not impossible.

All of the foregoing makes the tracing of interpersonal communications sound extremely easy. While, in many cases, it is easy on some occasions, it is extremely difficult. It requires the deductive capacity of Hercule Poirot or an Ellery Queen and more important the often less brilliant, but more effective dogged persistance of a police detective.

The following examples are all taken from our field experience in North Bay:

. A man had learned from a stranger in an airplane. He knew that his seat mate was a mechanic. One of our team (Susan Murray) canvassed firms who employed mechanics until she located the one on the plane;

. A woman had heard from a blond in a bar so our researchers (especially Paul Palango and Martine Becu) literally pub-crawled interviewing blond after blond eventually finding the right one. About seventy-five to one hundred person-hours were involved in this one trace.

. A man had learned during coffee hour after Sunday morning church service. Two researchers (Debbie Sproat and the author) visited the Protestant minister concerned, secured the congregation list and interviewed persons on the list until knowers and non-knowers were identified. It was then possible to reconstruct the flow of communications in the room where coffee was served. When we did reconstruct it we went back to the man in the sample. He had not recalled precisely how he had heard and he was amazed at our information but he

confirmed our reconstruction. (This one proved relatively easy because most persons in the congregation did not know; so the knowers and their contacts were fairly easily identified.)

. A man had learned from an unknown person but he said he knew the place from where the call had come. The interviewers interviewed every single person at that location and that proved fruitless but then we guessed that perhaps he had been in error and given the wording of the conversation (as reported by our interviewee); guessed the source, made one quick check and located the caller.

. A trace had been followed to a licenced lounge through the band, then to a stranger. By pure chance one of the team heard from a police officer that the officer himself had been in that bar on the night of the shooting and had told someone. The police officer agreed to go back to the bar with a member of the team and eventually he spotted the person he had told, a girl he knew only by sight. As it turned out she was sitting with a girl who had told the band member. The two girls had told each other and that chain was traced 10 stages -- the longest one ever traced by our team.

These are only examples but they illustrate that with patience and persistance, with some ingenuity and a little bit of luck; it is possible to reconstruct interpersonal communication chains. This means that we can hope in the very near future to design precise models of human communication patterns in a community -- at least a community under stress.

This paper was written to explain our methodology rather than to outline our results. But it would be helpful perhaps to demonstrate that our methodology does in fact work.

Some of my colleagues are now in the process of attempting to analyze the data collected in North Bay and this also is not as easy as it might sound. There are no simple guides to the coding of material. For example, no one has ever had this kind of chain data available before for computer analysis and, therefore, we have had to work out a whole new system of coding so we can identify the diads, the various groupings of two, and the triads, the groupings of three, within the chains. We have also had to create an identification system which allows us to pull out the original people from the sample or to pull out people at stage two, stage three, stage four, etc., in chains to see if there is any comparability between these kinds of persons.

Even at this point, however, we have some modest conclusions that are probably worth reporting. First, it seems evident that we have some very clear support for the multiple-step model.[34] The chains that we have are varying in lengths running from zero or one, depending on whether you consider one person to be a chain of length zero or one person to be a chain of length one, and running up to nine or ten stages.

Second, we have some clear evidence that supports the idea of the multiple-step flows described in Rogers because some of these chains go back to a person who is actually involved in the event or to a person who was an eye witness to the event (without any involvement from the media).

Third, we have some evidence that chains that deviate from all the normal standard patterns of relationships (between persons who are in the same family, the same working environment, or the same social group) are those which originate right around the scene of the disaster, or those chains which originate very quickly right after the impact of the event. We also have some evidence that interpersonal contacts with the event are far more likely to take place outside the home but may well flow into the home while contacts with the media are far more likely to take place in the home and flow from the home out. Therefore, persons involved in and around the event will eventually pass the news on to their families at home. A person who hears the news from the media at home usually passes the information outside the home perhaps to other relatives who are at work or at other locations.

Fourth, it seems quite clear that the longer the chain the more likely the originating source will be a person involved rather than a media source. Media sources simply do not generate long chains. They tend to slow down in the home environment.

Fifth, we have some data now from two studies that overhearing is a significant part of a long chain; that overhearing shows up as a means of identifying a chain of any length and that overhearing is the place at which chains jump the normal social economic barrier.

However, there are a good many questions that have not yet been answered including such questions as distortion of the message. We are still having problems recording messages precisely since the amount of data transcribed through the questionnaire is rather high. There are still problems in locating corrective messages; where distortions occur and how these are corrected. There are data concerned with the second stimuli phenomenon which we are still looking at; what is it that makes people respond to a piece of information? We are still looking at the whole business of feedback mechanisms, where these occur and how. We have some questions on this in the Newfoundland study but we have yet to get into that kind of data. It now appears to us that information comes to individuals in four ways:

1. direct contact with the media;
2. direct contact with other persons possibly through a medium of communications such as the telephone;
3. indirect contact with individuals (overhearing);
4. by direct involvement in an event as a participant or spectator.

It appears that when an individual learns of an event from someone else his informant may have in fact acquired the information in any one of the above ways.

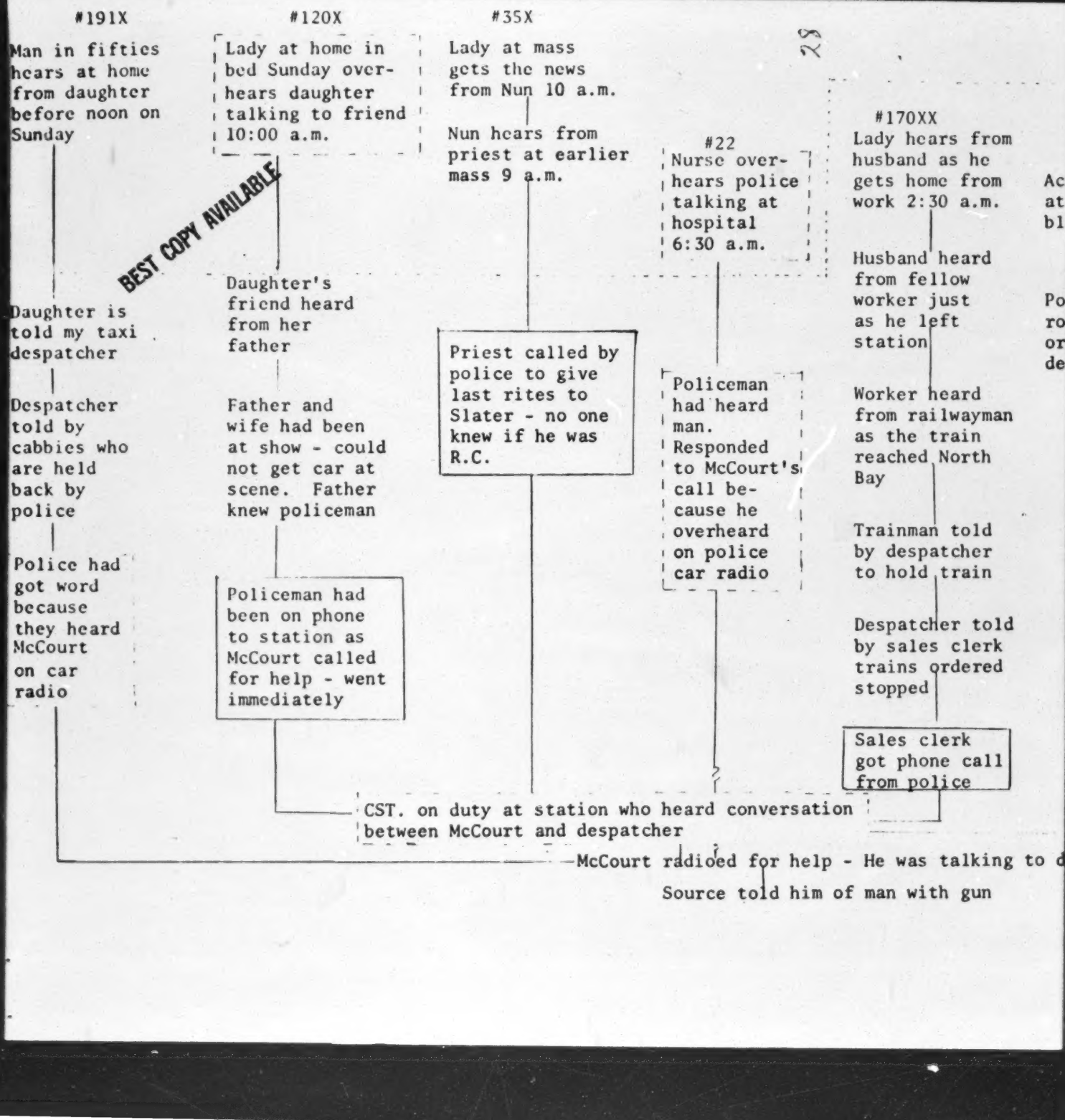
Although we are still looking at this point it seems likely that some human communication chains are relatively pure and uninterrupted by competing messages as the original data flows from person to person. Others will be subject to a great deal of interpersonal or media "noise". The informer talked with the second or third or fourth person or turned to a media source, radio or television or even occasionally print, before passing the information along to the next stage of the communications chain. In fact there is some evidence, only marginal as yet, that some persons may require multiple stimuli before they become active participants in communicating the information they have received in relation with any event.

Finally, one other point we think we should mention is that the media themselves are located at one stage or another in any chain and this stage may be different for various media at various times. It does not follow that because person A and person B both heard the news from a particular radio station they necessarily acquired the same original data. The station may have added to or altered its report in the interval.

As Appendix A to this paper I have included one chart showing how eight persons in our North Bay sample learned about the shooting that took place there on December 1, 1973. As the chart shows all of these people heard as a result of an interpersonal information flow that began with the source that told the police officer of a man with a gun and flowed from police sources out into the community generally. Each of these links was traced by us by starting with the persons in the sample (the persons with numbers assigned to them) and working back to the original source.

Even this chart illustrates the problems in tracing information. The six numbered persons in the chart are persons who were located only after some tracing. The "daughter" in the first chain did not know the taxi dispatcher. The dispatcher could not recall which cabbie told him first (this required a careful check of a number of persons). The nurse did not know the policemen she overheard talking (this involved interviews with an entire shift). The railway employee did not know the bus driver and the supervisor actually thought he had heard from another railwayman, not the police. It took two days to find out where that call actually came from.

All of this hopefully illustrates that crisis or disaster research -- the study of unanticipated events -- can be well organized, well planned, systematic and more important, productive. It suggests we can now hope to acquire considerable data about the exact nature of interpersonal communication patterns. It also suggests that we are still very much pioneers in what appears to be a promising chain of communications research.


#191X
Man in fifties hears at home from daughter before noon on Sunday
#120X
Lady at home in bed Sunday over-hears daughter talking to friend 10:00 a.m.
#35X
Lady at mass gets the news from Nun 10 a.m.
Nun hears from priest at earlier mass 9 a.m.
#22
Nurse over-hears police talking at hospital 6:30 a.m.
#170XX
Lady hears from husband as he gets home from work 2:30 a.m.
Husband heard from fellow worker just as he left station
Worker heard from railwayman as the train reached North Bay
Trainman told by despatcher to hold train
Despatcher told by sales clerk trains ordered stopped
Sales clerk got phone call from police
Daughter's friend heard from her father
Father and wife had been at show - could not get car at scene. Father knew policeman
Policeman had been on phone to station as McCourt called for help - went immediately
Priest called by police to give last rites to Slater - no one knew if he was R.C.
Policeman had heard man. Responded to McCourt's call be-cause he overheard on police car radio
Daughter is told my taxi despatcher
Despatcher told by cabbies who are held back by police
Police had got word because they heard McCourt on car radio
CST. on duty at station who heard conversation between McCourt and despatcher
McCourt radioed for help - He was talking to d
Source told him of man with gun

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#22
rse over-
ars police
lking at
spital
30 a.m.

liceman
d heard
n.
sponded
McCourt's
ll be-
use he
erheard
police
r radio

rd conversation

lioed for help - He was talking to despatcher

rce told him of man with gun

#170XX
Lady hears from husband as he gets home from work 2:30 a.m.

Husband heard from fellow worker just as he left station

Worker heard from railwayman as the train reached North Bay

Trainman told by despatcher to hold train

Despatcher told by sales clerk trains ordered stopped

Sales clerk got phone call from police

#52
Accountant stopped at O.P.P. roadblock

Police set up roadblock on orders from despatcher

#104
Wife overhears husband talking to O.P.P. at roadblock

O.P.P. set up roadblock on orders from despatcher

Despatcher told to give orders by O.P.P. corporal

CPL. got call for help from North Bay police

#31XX
Railwayman learns from fellow employee

Employee heard from a bus driver

Driver told to delay bus because of roadblocks

Order came from despatcher - Supervisor

Supervisor told by sales clerk who got call from police despatcher

Despatcher called bus

1. Paul Lazarsfeld, Bernard Berelson and Hazel Gaudet, The People's Choice (New York, 1968).

2. Ibid., pp. 151-153.

3. See, for example, Elihu Katz, Interpersonal Relations and Mass Communication Studies on the Flow Of (Ann Arbor, 1960).

4. Everett M. Rogers with F. Floyd Shoemaker, Communication of Innovations (Toronto, 1971), pp. 203-9.

5. Katz, op.cit., p. 244.

6. Elihu Katz, "The Two-Step Flow of Communication: An Up-to-Date Report on an Hypothesis", Public Opinion Quarterly (Spring, 1957), v. 21, p. 27.

7. Len Festinger, Stanley Schacter and Kurt Bach, Social Pressures in Informal Groups (New York, 1950), p. 120-121.

8. Loc. cit.

9. Kurt Bach, Leon Festinger, Bernard Hymovitch, Harold Kelly, Stanley Schachter and John Thibault, "The Methodology of Studying Rumor Transmission", Human Relations, Vol. 3, pp. 307-312.

10. Ibid., p. 312.

11. Loc. cit.

12. Elihu Katz and Paul F. Lazarsfeld, Personal Influence (New York, 1955).

13. Ibid., p. 363.

14. Loc. cit.

15. Bradley Greenberg and Edwin Parker, The Kennedy Assassination and the American Public (Stanford, 1965)

16. T. Joseph Scanlon, "Not Two Steps But One and One-Half". Unpublished paper. (Ottawa, 1968).

17. ----------. "The North Bay/Slater Study".

18. Russell Dynes. Organized Behavior in Disasters (Lexington, 1970)

19. Ibid., p. 213

20. Alfred D. Biderman, "Anticipatory Studies and Stand-by Research Capabilities" in Raymond Bauer, ed. Social Indicators (Cambridge, 1966)

21. Ibid. p. 274.

22. Scanlon, "The North Bay/Slater Study", op.cit.

23. ------- "The St. John's/Wyatt Study". Unpublished paper.

24. T. Joseph Scanlon, "News Flow About Release of Kidnapped Diplomat Researched By J-Students", Journalism Educator, Vol. 26, no. 1 (Spring 1971), pp. 35-38.

25. Richer et al.

26. Scanlon, "Not Two Steps But One and One-Half", op.cit.

27. From the St. John's questionnaire.

28. Scanlon, "Not Two Steps But One and One-Half".

29. All of these points are from our St. John's questionnaire.

30. Letter, February 19, 1974.

31. As a result we've revamped our questionnaire to include a sequence to check this.

32. Scanlon, "The St. John's/Wyatt Study", op.cit.

33. To locate and move a team very quickly requires the maintenance of this data.

34. Rogers, op.cit., p. 209.